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GAME MANAGEMENT CONFERENCE, URBANA, ILL., FEBRUARY 14, 1941.

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PRESENT

GLEN C. SANDERSON

Dr. T. H. Frison
Dr. D. H. Thompson
Mr. Roberts Mann
Dr. A. G. Vestal
Mr. Noel B. Wysong
Mr. J. H. Tyndall
Dr. G. W. Bennett
Dr. D. F. Hansen
Dr. Carl O. Mohr
Dr. L. E. Yeager
Dr. R. E. Yeatter
Dr. H. H. Ross
Mr. Lynn Hutchens
Mr. Frank Bellrose
Mr. Robert Hesselschwerdt.

A conference between the staff of the Forest Preserve District of Cook County and the wildlife technicians of the Illinois Natural History Survey was held on Friday, February 14, 1941, in Room 237, Natural Resources Building, Urbana, Illinois.

The wildlife program of the Forest Preserve District of Cook County and the accomplishments of the past year were reviewed and plans made for the year 1941. The following is a transcript of the discussions, according to subject under consideration:

MC GINNIS SLOUGH

Mr. Mann: Apparently due to the winter killing of most of the bullheads as well as other fish in McGinnis Slough during the winter of 1940 the turbidity of the water was materially decreased during 1941, permitting a marked increase in the growth of aquatic vegetation, notably Giant Bureed, Chara, Sago Pond Weed, and other species which are valuable food producers for aquatic fowl. As a matter of fact, that portion of the slough adjacent to 143rd Street is completely choked with Bureed. During the year considerable vegetation appeared above the surface of the water in various parts of the main slough, giving rise to the expectation that considerable cover will be afforded during the coming year. However, in our new WPA project now about to be submitted to Washington, we have set up the excavation of a small shallow channel which will make an island out of the wooded knoll on the east side of the lake. That island will then be inaccessable to wandering boys and others not equipped with hip boots, and will be a more likely refuge for wood ducks, herons and egrets. The dirt so excavated will be hauled over the ice and deposited to form an island approximately 200 feet wide and from 300 to 350 feet long on the northwesterly side of the slough. This island will furnish a nesting place, will tend to break the sweep of the wind across the water and will serve as an ideal spot upon which to locate our duck traps.

Last spring a pair of Canada Geese remained at the Slough and from their behavior it was presumed that they were nesting somewhere in the woods on the north side. However, on one Sunday a party of picnickers drove back to this woods across private property and the geese were seen no more. This incident prompted us to put a large force of WPA men at work removing all the old interior fences and erecting a new fence, consisting of steel posts and two strands of barbed wire, along our new north boundary which now extends

along the crest of the hill some distance north of the slough. The new WPA project also proposes a considerable amount of planting and reforestation in the whole area. I have the plans for this with me. The project also proposes to erect observation blinds at strategic points on the south shore of the main slough, with concealed trails le ading to them.

Within the next year or two we expect to acquire the remaining 25 acres of water adjacent to U.S. 45 and the Southwest Highway, and also the wooded subdivision immediately north of 143 rd Street, which we do not own at present.

There are approximately 10 acres of alfalfa planted by the former owner of land recently acquired on the north side of the slough and this is doing very well. We did not mow it on the advice of your staff and also the county farm agent. It will be interesting to see whether this alfalfa continues to thrive without cutting. We also planted several acres of feed, including corn, soy beans, millet and buckwheat. Most of the corn was allowed to remain on the ground; the soy beans were not harvested.

Forty acres of rye were planted on the west side of the slough for the geese to feed on this coming spring. During this month of February this field will be seeded to timothy and alsike clover, the ground being too worn out for crop use. Because we cannot spare the men and machinery necessary to put in very much corn, we are going to cut down the acreage of corn during the coming year and rely on such crops as soy beans, millet and buckwheat, which require a minimum of labor and attention.

Dr. Yeatter and Mr. Bellrose recognized the difficulty encountered in planting and cultivating a large acreage of corn for food patches in the McGinnis Slough area, especially in view of the fact that there is a considerable acreage of corn fields in the immediate vicinity and for miles around. They recommended that our plantings be confined to Soy Beans and German Millet.

SKOKIE LAGOONS

Mr. Mann: The excavation of the Skokie Lagoons has now been completed and a large force of men and equipment is engaged in covering the dikes with 6 inches of black peat and topsoil, and foresting the entire area. We are preparing plans for the construction of a caretakers quarters and service buildings south of Tower Road on the west side of Lagoon #3 and also a boat dock on which may be stored privately owned canoes and from which we will operate a fleet of row boats for rental. Small sail boats such as dinghys will also be given an anchorage.

During the census of the fish of these lagoons made by Jake Lemm and Lynn Hutchens during September, the State Department of Conservation brough t over about 250 large breeder bass from the Rockford hatchery and approximately 24,000 fingerlings which were mixed bass and bluegills.

The Winnetka Chapter of the Izaak Walton League prevailed upon Secretary Ickes to send Mr. Bourn of the U. S. Fish and Wild Life Service out here to study their proposal to create a fenced-in wild life sanctuary in a part of these lagoons. This being contrary to our policy and plans, as well as expensive, and, as we see it, unnecessary, Lynn Hutchens and I met with their

committee and Mr. Bourn, and went over the whole situation. I have Mr. Bourn's report with me and I would like to have a discussion of it. He agrees with our position all down the line, proposing, however, the construction of ponds in the surface of the two large islands between Tower Road and Dundee Road. Because this would be rather difficult for us now that the lagoon system has been completed, we prefer to design and construct the proposed extension of the present lagoon system north of Dundee Road north to the Lake County Line Road so that it would be specifically adapted to and could be set aside as a wild life refuge. This would include some 30 or 40 acres of shallow water and two large islands.

The Survey staff concurrs in the proposal of the Forest Preserve District to construct an extension of the lagoon system between Dundee Road and the Lake County Line Road north of the present system, to be especially designed as a wild life refuge. The plans for this section to be submitted to the Survey for review. It would contain two islands and a stretch of shallow water between the two, from 30 to 40 acres in extent.

Mr. Bellrose recommended that the maximum depth of the shallow water between the two islands be 30 inches rather than 36 inches, to permit the growth of aquatic plants providing food and resting places for puddle ducks.

Since this Conference this proposal has been submitted to the Winnetka Chapter of the Izaak Walton League and they have agreed to it heartily. They have given up the idea proposed by Mr. Bourn of constructing shallow ponds in the interiors of the two large islands north of Tower Road.

MAPLE LAKE

Mr. Mann: Maple Lake is coming along nicely as a fishing center. We netted almost $1400 this summer from the operation of 24 rowboats. This year we will operate 35. So far we have been unable to obtain any of the 2,000 breeder bass recommended by your staff for stocking this lake. We earnestly hope that this will be arranged during the coming year through the efforts and probably the work of your staff from such locations as Chautauqua Lake.

Dr. Bennett suggested draining Maple Lake to get rid of the great numbers of small bluegills and then start restocking the lake with desirable species, but Dr. Thompson said that he had examined the shore thoroughly and saw no indication of a drain or outlet whereby this could be accomplished.

Mr. Mann stated it as a fact that the overflow was located at such height that this would be impossible except by pumping and was therefore out of the question. Mr. Mann also stated that poisoning would be inadvisable and had been vetoed by Mr. Sauers because of the psychological effect upon the public in whose mind the Forest Preserve District had been building up a conception of the theory that nature is better left alone and that there would be no control of predators, raptors, weeds, etc. Mr. Mann also stated that great numbers of people, both young and old, and particularly colored people, got real enjoyment out of fishing for these small bluegills, and derived all the satisfaction they needed from the fun of catching them readily as they are now. The Forest Preserve District would proceed to reduce the bluegill population in unobtrusive ways and gradually; by keeping their nests destroyed and by introducing large numbers of breeder bass, as recommended by Dr. Thompson.

Dr. Thompson, Dr. Bennett and Dr. Hansen recommended that the Forest Preserve District arrange to have creel censuses taken during the year 1941 of Maple Lake and the Skokie Lagoons, utilizing CCC boys for this purposes, operating under the direction of Mr. Hutchens.

Mr. Mann agreed to have this done.

DES PLAINES RIVER

Mr. Mann: The Des Plaines River is now practically free from pollution and some fish are being caught or observed from as far north as Dam No. 2, above Des Plaines, Ill. We would like to have you make a census and a study of the river, I have a notion that it should be stocked with fish. The Illinois Division of Waterways has appropriated in their budget for this Biennum funds with which to build the first three of a series of low dams in the Des Plaines. Eventually we will have a series of such dams creating a succession of pools which will facilitate canoeing, boating and fishing.

Dr. Thompson pointed out that the Des Plaines River goes almost dry during some seasons and that the pools created by a series of low dams would help a great deal as far as canoeing and boating is concerned, but that the one doubtful factor lay in the reduction of oxidation and purification due to the elimination of all shallow rapids.

WATERFOWL CENSUSING AND BANDING

Mr. Mann: During the migrating season this fall we operated three duck traps. After a poor start, during which we suffered from the predations of coon and mink, the trapping was very successful in two of the traps. The third one never did catch but few birds. We banded a total of 895 birds and I understand there were a great many returns from hunters and from the same birds trapped at the Chatauqua Refuge. We plan to continue this work during the spring migration and likewise next fall. It was interesting to note the great number of star boarders, some of whom returned to the traps a great many times.

LAND ACQUISITION

Mr. Mann: I have with me an atlas of Cook County, showing all the lands we propose to buy under our increased acreage limit of 4,000 additional acres. I also have a list of the priority to be given the various tracts. Number one on the list is the acquisition of the remainder of the Sag Valley.

Dr. Tompson stressed the importance of acquiring Sanitary District lands bordering the main Sanitary and Ship Canal and also the Sag Canal for recreational purposes to take care of the growing needs of the Chicago Metropolitan area and their peculiar adaptability for such purposes.

Mr. Mann stated that such was the plan proposed by Mr. Sauers and Mr. Robert Kingery of the Chicago Regional Plan Association, but that such acquisition was tied up with a number of things, particularly the Sanitary District's desire to get rid of and turn over to the State or County, or both, all the bridges which it had constructed across these canals and which were expensive for them to maintain. That the Sanitary District also wished to get rid of McCormick Boulevard along the north shore channel with its lighting system and bridle path. That all these things were a matter requiring considerable negotiation and trading,

and that it was hard to say when such transfer would be accomplished.

Dr. Thompson asked that Mr. Mann urge Mr. Sauers and Mr. Kingery to do everything possible to promote the acquisition, by the State, of the Kankakee River bottoms and marshes as an additional recreational outlet as well as for their value to the wild life picture.

AQUATIC VEGETATION

Mr. Mann: During the early part of last summer, Lynn Hutchens and Frank Bellrose obtained a large quantity of desirable aquatic plants from the Fox Lake Region which was planted by CCC along the shores of the Skokie Lagoons. During the coming year I am especially anxious to make similar planting in several of the new pond and marsh areas which have been constructed in the Palos and also in the Camp Bemis area, along the Salt Creek near La Grange.

Mr. Bellrose and Mr. Hutchens decided that the stocking of the several wild life "oases" constructed as joint wild life and mosquito projects, with desirable species of aquatic vegetation, was unimportant and unnecessary considering the great amount of other work to be accomplished -- that they would undoubtedly be stocked by natural means.

MOSQUITO CONTROL AND MARSH CONSTRUCTION

Mr. Mann: During the year we completed the construction of a large earthen dam and a lagoon in the Palos area between 100th Avenue and Mannheim Road north of 95th Street. We had also completed a long narrow lagoon west of Wolf Road between the Pulaski Woods Picnic area and the Wolf Road Grove, adjacent to our Palos Golf Course. We also completed the reconstruction of a marsh to contain a large island in the low ground just north of this same golf course. The WPA is now engaged in digging a deep channel all around the marsh west of Mannheim Road and south of 95th Street in which we once dynamited a big hole. Plans have been drawn for the construction of a dam and the excavation of the necessary deep water portion in the marsh on the east side of Mannheim Road and south of 95th Street. The CCC are now constructing a marsh area with a central wooded island, east of Wolf Road and just south of 31st in the Camp Bemis area. All these ponds and marshes should be stocked this spring with Gambusia affinis.

Other than this there has been no new construction to provide mosquito control although the Des Plaines Valley Mosquito Abatement District did start one job which I stopped immediately. They have been confining themselves to oiling with pyrethrum and keeping their existing ditches in operating condition.

With the wild life oases constructed during the past year and those now under way or contemplated, we will have from 30 to 40 such areas, each of which has a central pool constructed with a series of wide shallow steps from the deep water to the shallow water so that kids will not be apt to slide into them and drown. In every case there are low swale ditches extending from the deep central pool to any low potholes to minimize the danger of trapping the Gambusia when the waters are receding in a drought period. There was some question as to whether or not we should supplement the Gambusia with blunt-nosed minnows and small bullheads. Someone gave me the opinion that the Gambusia would not travel out to the irregular fringes of an overflowed area where it was thick with grass, but that blunt nosed minnows and bullheads would.

Dr. Bennett: That would not be necessary. Our investigations show that the Gambusia will penetrate to all parts of an overflowed area and will almost climb out on the banks to get something to eat. In one field there had been tracks made in the ground in which there remained about 1 inch of water after the recedence of the overflow and we found Gambusia in these tracks. Incidentally, we have one small pond where we put in 40 Gambusia and took out 40,000.

Mr. Mann: Lyell Clark of the Des Plaines Valley Mosquito Abatement District claims that there should be about 1 acre of breeding area for Gambusia to each 20 acres of marsh. Incidentally he uses some interesting equipment to spray such areas where they are imperfectly stocked with Gambusia, or not at all. He has two huge vehicles which he calls "Swamp Angels" consisting of a truck with 4 huge wheels and 4-wheel drive which can cross any ditch and any swamp area. These wheels have enormous pneumatic tires. From these vehicles he sprays the swamp with Pyrethrum, incidentally making huge tracks through it and will mash down considerable vegetation, which is extremely irritating to us. Clark, of course, has just one thing on his mind, and that is mosquito eradication. Through many of our fine wet woods he has dug ditches which are bad in appearance and which injure the woods. Tree roots mean nothing to him. Right now they have under way a proposed tri-county mosquito abatement project, and have spent some months surveying all the marshy areas in Cook, DuPage and Lake Counties, with a view toward either draining them or constructing wild life oases in them. Inasmuch as few farmers would care for or cooperate in the construction of such oases, you can just bet that most of them will be drained to the everlasting detriment of wild life and the landscape value in this county. Now he is trying to tie the whole thing up with defense.

Dr. Thompson: Dr. Ross of our staff is talking about making a survey of the whole state in which he would investigate the mosquito breeding areas and their effect upon the population centers. Also the efficiancy of the various methods of mosquito control. We told him that you people in Cook County had leaned over backward to do many things to help us and that you would do the same for him.

Dr. Ross: We plan to make a survey of the mosquito in Illinois and try to find out what species we have; where the various species breed, how many generations they produce each year, and how many of them are actually a nuisance. We started this last year, and incidentally, ran across one peculiar fact. We investigated an area near Fox Lake where there is considerable swamp land and did not find a single mosquito in the swampland. However, we did find some places nearby where someone had dug out peat and in those holes we found about two million mosquitos. Such holes would be easily missed when spraying so that you might spray the entire swamp area without making an impression on the mosquito abatement problem unless you took in all such potholes, hoof tracks, and the like that might represent 99% of your mosquito problem in a couple of acres.

Mr. Mann: It just occurrs to me that there are huge dumps in the Chicago area similar to those along First Avenue and North Avenue, northwest of River Forest, containing thousands of tin cans and receptacles where mosquitos undoubtedly breed. Clark is doing one good thing however. He has crews going around with motorcycle side cars from which they srpay all catch basins and manholes. I do not think he has made any attempt to tackle these dumps. Another mosquito very hard to eradicate is the woods mosquito which hibernates in depressions in the woods and comes out early in the spring after the first warm rains.

Dr. Ross: Yes - and another thing we found is that if you have any light warm rains, no matter what you do, you cant avoid having a swarm of little mosquitos. They have a life cycle of just a few days and spraying rarely gets to them. Their breeding places are difficult of detection and unless you get to the larvae, you can do nothing about them.

Dr. Thompson: Dr. Ross is going to carry on this survey. I told him that you would help him and that you would give him not only assistantce, but protection if needed.

Mr. Mann: As far as we can go, yes.

Dr. Frison: There is one thing that I would like, and that is for you or your men to go out with Dr. Ross to pick out types of localities which are mosquito breeding places, and important factors in the mosquito problem.

Dr. Ross: For the time being at least, we plan to survey chiefly effected areas which are recreational areas. We need two things: one as stated by Dr. Frison, a guide who knows breeding places and areas effected by them and who can take us to the various types of habitat, etc. Another would be some place, preferably a basement room, where we could set up our jars of larvae and rear mosquitos for study.

Mr. Mann: As to the last requirement, I think we can take care of you easily. The pipe gallery at the Central Warehouse, would, I think, be ideal for you. We will give you your choice of places. For a guide, we would use Mr. Hutchens and I would like to suggest that he be accompanied by Mr. Yettaw who works for Lyell Clark and is probably his best man. Yettaw is very capable and sincere. He knows Cook County and the adjacent counties thoroughly. Would you have any objection to him going along with you and Lynn?

Dr. Ross: We would welcome him. We would cooperate fully with the Des Plaines Valley Mosquito Abatement District. We are in this thing quite openly, as a research and fact-finding organization, collaborating with the State Department of Health.

Mr. Mann: Mr. Sauers and I have been of the opinion that there are no anopheles mosquitos in the Chicago area. Do you think this true?

Dr. Ross: I think you will still find some anopheles mosquitos in this area. In Champaign and Urbana we found the malarial mosquitos in fish ponds. In regard to this whole mosquito situation, we will try to find out what situations they breed in and how many generations they have per year. We expect to start about the last of March.

Dr. Thompson: I think we still have the malarial mosquito. Malaria has become quite uncommon, whereas in the early days it was very common. My people came here in 1834 and although they ate quinine regularly, they considered it fortunate if someone did not have the "shakes" every day. Possibly the main reason we dont have so much malaria now is that people dosed themselves with quinine for so many years that the germ itself has become pretty well eradicated. I am sure that if you moved in a few cases of malaria here and there we would again have a widespread malarial condition.

POLLUTION

Mr. Mann: During the year I have made a couple of field trips with Carl Schwob of the State Sanitary Board, when we traced to their sources several bad instances of pollution. The worst emanated from three large roadhouses on Skokie Boulevard (U.S.41), at the Skokie ditch. Steps are also being taken toward the elimination of the pollution of Thorn Creek by the large industrial sewer flowing from the factories east and outside of Chicago Heights. The Sanitary District of Chicago is now constructing a series of intercepting sewers, much of them in tunnels, designed to eliminate the pollution of the north branch of the Chicago River from villages, golf courses, and private homes in the neighborhood of Glenview and Morton Grove. The pumping plant for this system will be located on our Northwestern Golf Course property, much to our disgust, but necessary if we are to eliminate the pollution so objectionable in this river. The Des Plaines River is now practically free of pollution. The only serious source of pollution is now the Village of Wheeling, and I understand that plans have been drawn and a project is under way for treating their sewage. The bottom of the river is clean and hard from Des Plaines, Ill., to Maywood, Ill. I found this out first hand when we alternately poled and pushed on foot the entire distance. There are a few pockets of sludge where some of these big overflow sewers discharge into the river. These carry storm water and only carry domestic sewage in times of excessive rainfall. At all other times the domestic sewage is carried off by interceptor sewers. The Des Plaines River is now so free from pollution that fish are being caught as far up as Des Plaines - and a year ago this winter Lynn Hutchens found good sized fish, caught in the ice at Dam #2. We have seen several pretty fair strings of fish caught at different points along the Des Plaines River. I am of the opinion that we are now ready for a census and a study of the fish in the river, and that it possibly should be stocked to a limited extent.

PRAIRIE CHICKEN AND RUFFED GROUSE

Mr. Mann: As you know, Lynn Hutchens and Bob Hesselschwerdt are now trapping prairie chicken again in southern Illinois, using 44 traps, of which we built 20. As many as 8 prairie chicken were observed late this fall, remaining in the Mc Ginnis Slough area. One farmer boy swears he heard them booming after their release last spring. I have here a letter from Mr. Grimmer of the Department of Conservation in Wisconsin, stating that they are proceeding to trap ruffed grouse for us and will exchange one grouse for four pheasants. If possible, they will furnish us with 6 pair, which we will release in the area south of 95th Street between Mannheim Road and Wolf Road in the Palos. Mr. Wysong, in the past two years, has made plantings of berry-producing vines and shrubs suitable for grouse. I would like to know if grouse feed at all upon wild crab apples. This area is extensively covered with wild crabs and haws and I understand that grouse are evident in such habitat in Wisconsin. As soon as Lynn returns from trapping prairie chicken I propose to put him at trapping pheasants in the area south of our Central Warehouse where they are so abundant. I will send Wisconsin 24 or more pheasants, even in advance of receiving any grouse from them, to show our good faith.

It was the general census of opinion that wild crab apples would furnish some food for ruffed grouse, particularly the buds in the spring. Mr. Wysong remembered that in New York state ruffed grouse were especially plentiful in areas where there were a lot of wild crab apple and hawthorn trees. After a general discussion, in which Mr. Wysong outlined the planting which had been made in the proposed area for stocking with ruffed grouse, it was decided that there be

additional planting of alder, aspen, service berry and viburnum, to provide not only berries and food, but particularly buds for spring feeding. It was decided to plant no red cedar, because this tree is not indigenous to the Cook County area and there would be plenty of food without it.

PRAIRIE RESTORATION

Mr. Mann: Dr. Sperry of the CCC Camp at the University of Wisconsin Arboretum at Madison, Wis. spent two weeks with us last fall and, in company with Miles Sharpless of our Forestry Department, made a survey of the remaining prairie vegetation in Cook County. He found a total of 195 acres which contained varying amounts and species of the original prairie plants. He found one small area which reached the optimum we might expect, and we have permission to transplant all this prairie vegetation to our proposed prairie restoration area. The site for our preserve selected was west of Milwaukee Avenue, between Central Avenue and Lake Avenue, east of Dam #2, which now has several small patches of virgin prairie in it and a considerable variety of prairie plants. Dr. Sperry made a map and plan and recommended procedure for such a project by CCC construction, and the project was approved by the Regional Office in Omaha. However, it then developed that he could not be spared from his work at Madison because one of their foremen there left and Sperry was put to work on certain wild life projects, at the same time continuing his prairie restoration work. We have set up the project in our new WPA program also. I propose now that in the summer and fall Miles Sharpless be placed in supervision of this project, utilizing both WPA and CCC if necessary and that Sperry make weekly trips to consult with and advise Sharpless so that he will not go haywire. Sperry thinks this feasible and Professor Leopold has written me approving my decision.

There was considerable discussion of this item and the proposed project. Only the more pertinent comments and suggestions are given here.

Mr. Mann: I recently received a letter from Mr. Geo. N. Lamb, formerly District Engineer of the Division of Highways at Elgin and now with the Portland Cement Association, who is somewhat of an authority and an enthusiast on prairie vegetation. He made one suggestion I thought a good one and one which Dr. Sperry had not considered and that was the restoration of a typical wet marsh type of prairie on the west side of this 165 acre tract which would be entirely suitable for such purpose by reason of its topography and lack of drainage. We have just set up in our new WPA project an item for prairie restoration carrying quite a large number of man days. We now figure on using Miles Sharpless of Mr. Wysong's Forestry Department to superintend both CCC and WPA on prairie restoration, with Dr. Sperry running down on weekends to advise him and keep the thing on the right track. Professor Leopold agrees with this. I Spent a morning with Sperry recently and he believes that this would be feasible and would suffice. When the National Conference on State Parks meets this spring I intend to get Newton B. Drury, Colonel Lieber and Tom Allen the Regional Director from Omaha, in a room together with my Boss and endeavor to interest and enthuse them in this prairie restoration project. Apparently no one but myself is very keen about it. I hold that it is just as important for us to restore and preserve a typical section of Illinois prairie as it is for us to preserve our fine woodlands, Illinois having been one of the principle prairie states.

Dr. Vestal: I got a copy of your letter from Mr. Charles Deam. Mr. Deam's objections and suggestions about the project, particularly in regard to fencing it, controlling it, and protecting it from the public would be much more valid if you did not have a man like Mr. Sauers as your General Superintendent. There is no one better equipped than Mr. Sauers to deal with the public. I do not anticipate any of the difficulty Mr. Deam suggests. I would say go ahead with the thing.

Mr. Mann: Do you agree with Mr. Deam that Professor Sherf should be in the picture.

Dr. Vestal: Yes, he should be.

Dr. Thompson: I think you should get Papoon in on this.

Dr. Vestal: That is very true and it should be done soon, because Mr. Papoon is quite elderly and feeble. He has the great advantage of having been in the country sooner than any of us, so knows prairie and knows what it was like. Incidentally, the greater variety of prairie plants you get into your area, the better it will be.

Mr. Mann: If I remember correctly, Dr. Sperry and Sharpless found some 48 species and great numbers of certain species. You understand, however, that we have got to be showmen in this thing, just as we do in many things and make it spectacular. There should be quantities of those beautiful plants that flower in late summer and early fall. Several persons to whom I showed one particular tract of virgin prairie that represents almost the optimum we might expect became enthusiastic converts and have spread the gospel far and wide.

Dr. Vestal: Where are you going to get your prairie plants?

Mr. Mann: In this particular optimum area which is a triangle roughly 400 feet in its altitude and 400 to 500 feet in its base, where we found 41 species. We found a total of 195 acres in the north half of Cook County from which we can obtain many varieties. We have permission to remove all such plants as we require. There is one thing that bothers me and that is the fact that our proposed area of 165 acres lies on the east side of the Des Plaines River and on the east side of the belt of woodlands along the river. In other words the background will be that strip of dense wood.

Dr. Vestal: Our old prairies often would have a woods background. I dont think you need to worry on that score. How much of a vista will you have?

Mr. Mann: I had hoped to get a vista of at least 3/4 mile. In this area we will not have over 1/2 mile.

Dr. Vestal: You will see pictures of prairie where woods are a background. There usually was some forest or wooded clumps within $\frac{1}{2}$ to 6 miles of the prairies. The large unbroken strips of prairie in Illinois were 20 miles north of Bloomington and those running toward the Illinois and Rock Rivers.

Dr. Thompson: My people told me one outstanding fact, namely, that when they went to farm, they had to chop sod before they could plow.

Dr. Vestal: The original Illinois farmers were unable to face the drainage problem and the tough, thick sod. They did not have the tools.

Mr. Mann: I heard Professor Colb y of the University of Chicago say that it was not until the invention of the chilled steel moldboard plow by John Deere that the pioneer Illinois farmers were able to cultivate the prairie. He also made a statement that the Illinois prairie is unique whereas the Indiana and Iowa prairies are reproduced in Mesopotamia and the steppes of Russia. Is this true?

Dr. Vestal: I believe Professor Colby is slightly damp on that one. Texas has some prairie soil and some prairie practically the same as our Illinois prairie and there are some locations in Mississippi (Tennessee ?) which are likewise the same as ours.

Mr. Wysong: What would you say the minimum area would be on which to get satisfactory results?

Dr. Vestal: If you cant find any more, you will find people enthusiastic over a piece about the size of this room.

Mr. Wysong: How much more valuable would an area of 165 acres be over 16 acres or 30 acres?

Dr. Vestal: I am too prone to see it from my own point of view. I could do and be satisfied on $\frac{1}{2}$ acres as well as on 30 acres. 30 acres would be a wonderful thing. I think you will find it better to try not more than 30 acres at first. Find out what mistakes you made which have to be remedied and then perhaps expand to larger acreage. Even 16 acres would be fine to start with. When you get this thing going you will have no trouble in creating enthusiasm and support for creating more. Furthermore, you can use the material produced on your first tract as a nucleus for stocking your new tract.

Mr. Wysong: Dr. Sperry has estimated that 1000 man days will be required to prepare and plant about 16 acres, assuming that tractor machinery can be utilized to strip-furrow the areas. If handwork only were employed than he estimated that 100 man days per acre would be required.

Dr. Vestal: The difficulty which Sperry did not have at his Wisconsin arboretum and to which I do not believe he has given consideration here in your case, is the fact that at Madison he was dealing in warn out land which was less favorable to weeds than to prairie vegetation. Sweet clover is likely to be one of your main problems.

Mr. Bellrose: Is there a chance for the forest to invade it?

Mr. Wysong: We are taking care of this by pulling and cutting. Some haws may come in, but we can eradicate these. A few years ago there was some planting introduced which was damaged by fire and young trees are now coming back from the roots of these. They too will have to be eradicated.

Mr. Bellrose: You will undoubtedly have to plow fire lanes around this area.

Mr. Mann: Yes, and perhaps interior fire lanes as well. Mr. Robert Kingery has always advocated and included in the Illinois State Recreational Survey and Plan a prairie state park because this is a prairie state. However, I doubt if he gets very far with this and I know of no other place in the country other than at Madison where there has been any real attempt at prairie restoration. There is considerable interest in our project in the Chicago area.

TYPE MAPPING

Mr. Bellrose: Have you done any type mapping since our last meeting last year?

Mr. Wysong: No. The field work on our type mapping of the timber in the forest preserves is wholly complete and we are working on the maps themselves, some of which are complete. Now we propose in our new WPA program to make vegetative type maps showing all the desirable grasses, and weeds for wildlife, etc.

Mr. Bellrose: Cant you use aerial photos for type mapping?

Mr. Wysong: No. We have a great number of aerial photgraphs, but they are not suitable for such work.

PREDATOR CONTROL

Mr. Mann: We have not made, nor do we intend to make, any efforts toward predator control. We have carefully built up a recognition in the public mind of the folly of trying to assist nature and of the danger incurred in upsetting the natural balances. We do not wish to undo what we have done. We did let our forces at the nursery kill a large number of rabbits which infested that area and were causing an enormous amount of damage, but not more than two or three persons know about this. Recently we were requested by Mr. Davis, in charge of predator control for the Department of Conservation to bomb a crow rookery in the woods on the south side of McGinnis Slough. We refused permission and then a wealthy landowner a mile or south of that point wrote in to President Clayton F. Smith. The letter was referred to me and I wrote a long answer setting forth our reasons for refusing such permission and quoting liberally from that bulletin on the crow gotten out by the U.S. Dept. of Agriculture and revised up to date last summer. The gentleman was apparently swamped and convinced by my numerous reasons given and good-naturedly threw up his hands in resignation. As a matter of fact Lynn made a count of the crows leaving the rookery one morning last November and could count only 600, which is far less than the 20,000 mentioned by Mr. Davis. Apparently they count crows about the same as they count fish.

Dr. Thompson: The Davis who wrote you is known as Dixie Davis.

Dr. Mohr: What was given as the reason for this request to bomb the crow rookery in the McGinnis Slough area.

Mr. Mann: Their argument was that the crows were exterminating the upland game birds, the eggs of breeding waterfowl, etc., but to interest us they claimed that crows were spreading tree diseases, breaking small branches, etc. - the usual line of bunk.

Dr. Thompson: We had a crow project in this section and the conclusions of the bulletin you quoted were bolstered. There is apparently no reason for exterminating the crows in Illinois. There is no evidence to show that the crow materially effects upland game birds and none to show that they have any appreciable effect upon nesting water fowl.

Dr. Bennett: What do you do about stray cats and dogs?

Mr. Mann: We bend every effort to eradicate these. We recently put out an order to all our CCC Camps, Division Headquarters, caretakers houses, and tenant houses, that only two dogs be permitted per location, and that no cats be permitted to roam at will. Our rangers have strict instructions to shoot all stray cats and dogs on sight. We do not eradicate rattlesnakes, contending that they are a natural hazard native to our landscape, the same as poison ivy. If we eradicated everything we are asked to eradicate, we would have nothing but a few white oaks.

WILD LIFE FIELD TRIPS

Mr. Mann: I want to urge you to hold at least one and preferably more, wild life symposium and field trip in our preserves, similar to those held two years ago. We are working toward a program of education for leaders and teachers in nature study and conservation in not only the schools of Chicago and Cook County, but also in such youth groups as the boyscouts. We simply must wean them away from their program which attempts to emulate the pioneering activities of Daniel Boone and Buffalo Bill Cody. They forget that Daniel Boone has been dead a long time and that the hand axe and hunting knife are no longer proper equipment for campers, particularly in a metropolitan area. We suffer untold damage each year from the scars and the destruction of our trees, both young and old, occasioned by the use of these weapons in the hands of boy scouts and others. Naturally the boys must be given some program in the place of the one they have been following. Their hand book contains considerable material on forestry, wild life and nature study. I propose that they be given instruction and field trips along these lines. The difficulty is to find sufficient leaders capable of teaching these subjects. Mr. Wysong is going about the county and will eventually talk to all boy scout troops in the Chicago area on the subject of fire danger, reforestation, and the life and value of trees.

I am on a committee which includes representatives from all the museums in Chicago and representatives from the different educational associations as well as from the different school systems including the parochial schools, which is getting out a handbook and manual of all the museums, setting forth what they have to offer, and promoting wise educational use of them. On April 19th at the Museum of Science and Industry, we are having a county-wide conference, setting forth what we have accomplished during the past year and our further program. This program is aiming at getting more children to the museums and getting certain material and lectures from the museums into the schools, and promoting better use, more intelligent use, of the museums by teachers and classes.

I am also working with Mrs. Leota Thomas of the Field Museum and Mrs. Lambert, Recreational Chairman of the Cook County Federation of Women's Clubs, to establish a school for leaders in nature study among the youth groups. Mrs. Lambert is certain that her federation can appropriate $3,000 toward this work. They propose to use our Trailside Museum as a field headquarters, utilizing its facilities, its exhibits, its classroom and the nature trails in the woods around there.

Dr. Thompson: We would like to make one field trip each year, with the men here that are free. The one in the fall should come either the first or the second week in October, after the grade school kids were back in school so that we would not be overrun with them. It should be in the fall while we still have good weather.

Dr. Frison: The Western Electric people at Hawthorne have contacted me again for a symposium as we had last year. Perhaps we could combine these trips. Perhaps it would involve too great a number.

Dr. Thompson: We have put on four shows at Maple Lake. In every case we did not have as many people as were expected.

Mr. Mann: We were not in a position to have them as we are now. When is it to be?

Dr. Frison: The last part of May or the first part of June.

Dr. Thompson: It would be better to have it the last half of April or any time in May.

Dr. Vestal: There is a Central States Forestry meeting going on the 10th of October. Your fellows might want to go to that.

Mr. Mann: Would you say the second week in May? You want as many wild flowers as possible.

Dr. Thompson: If it is the second week in May you will hit the crataegus season.

Mr. Mann: Want me to get Cap Sauers to write and ask you definitely?

Dr. Thompson: Yes, that would be better.

A tentative agreement was reached wherein the Survey would conduct a symposium with field trips starting from Maple Lake about the second week in May and another one in the first and second week of October, depending upon the date of the Central States Forestry Conference. Dr. Frison indicated that it would be advisable for Cap Sauers to formally invite the Survey to conduct such symposium.

TRAILSIDE MUSEUM

Mr. Mann: We have just about completed the remodeling of the basement of our Trailside Museum so as to provide a well lighted, well equipped laboratory and workshop for the use of not only the museum staff, but such children and adults as wish to study taxidermy, disection, etc. I have with me a plan for the re-arrangement of the first floor of the museum, prepared by Miss Harriett Smith of the WPA Museum Extension Service, operating out of the Illinois State

Museum at Springfield. This plan necessitates the building of new cases, cages, etc. An addition to the museum in the form of a new room in the rear has also been completed and attractively paneled in silver gray, weather beaten old pine boards. The caretaker who formerly lived on the second floor of the museum was unable to stand the smells and the cockroaches that are so abundant there and moved out. Whereupon we placed in some of the rooms, our WPA Time-keeping Division. In return we get 24-hour Janitor and cleaning service and watchman service 365 days of the year. The remaining rooms on the second floor will be used to store botanical exhibits and the largest room will serve as a classroom and lecture room.

Our main trouble at the museum lies in the number of live exhibits. Miss Moe has the feeling that they are the most important part of such a museum. She runs particularly to fox squirrels. In addition, everybody in the Chicago area that finds a sick or wounded animal or bird comes running with it to us. We have gotten rid of several of the least desirable of the live exhibits and propose to cut the number down still more. We also propose to construct a large outdoor cage according to some sketched plans I have with me, wherein we will put the barred owls, raccoon, 'possum and skunks together. Just what the result of this experiment will be, I dont know. We wrote all over the country trying to get ideas and designs for outdoor cages, but were unable to get any information worth while. Accordingly I designed one myself, keeping in mind the essential requirements of plenty of sunlight, ease of cleaning, protection in inclement weather, and attractive appearance. I would like criticisms of this plan.

Dr. Thompson was strongly of the opinion that there should be more live exhibits instead of less, and that most of the mounted specimens of both animals and insects should be relegated to a storage room. Mr. Mann pointed out that this was at variance with the general opinion of the first conference here, and with that of the museum people in other museums in the Chicago area.

No agreement was reached on this controversial point.

TAPROOTS

Mr. Mann: The Taproots magazine has proven to be quite a burden. The writing of it devolves entirely upon Miss Moe and upon those of us whom she can persuade to contribute. It takes a great deal and too much of her time. We are undecided as to its value and whether or not we should continue it. If we do, we will get out only 4 issues a year. I would like to have criticisms of the subject matter and method of presentation. It is an expensive proposition for us and if we are to continue it, it must be made worth while.

Dr. Thompson objected to some of the fanciful stories in Taproots wherein birds, animals and flowers talk like people. Dr. Vestal concurred in this. Mr. Mann stated that in the current issue of Taproots they were including a questionnaire which the recipient of the magazine was asked to return stating whether or not the magazine was of value and whether or not it should be continued. The work and expense to getting out this magazine have been so considerable as to make quite a burden. In the beginning copies were sent to all the science teachers in the Chicago area, but there were no replies or indication of its value to them, so they were dropped from the mailing list. At the present time there is a mailing list of somewhere from 200 to 300. The remainder of the 2000 copies are handed out to museum visitors.

TAMARACK BOG

Mr. Mann: We obtained a quantity of tamarack cones when they matured last fall in October and have planted them in our nursery. When the seedlings reach sufficient size they will be transplanted. My own notion is that the most suitable location is the marsh in the interior of the Elk Grove Preserve, which is entirely choked up with cattails. I would like to have this studied by your staff.

I have with me a letter from Dr. Frison agreeing with my proposal that the State of Illinois acquire the Volo Bog with Pittman-Robertson Funds. State Forester Tomasek is also quite agreeable to this plan and we hope that something definite can be accomplished during the coming year. I made a trip through the bog last summer in company with Frank Bellrose and Lynn Hutchens. Although it does not rank with the bogs in the Dunes area of Indiana, lacking certain of the finer vegetative types such as giant lady slipper, still it is the finest thing of its kind in Illinois and could be readily improved. Right now it is in great danger because of a ditch which has been dug several feet deep, extending into the heart of it.

Dr. Vestal: The one trouble you will have is calcium. Dr. Stevens of our Department has made a study of calcerius bogs and he found out that the bog most productive is the one that has the most acid. Bog conditions require a high acid sphagnum. You should have the soil analyzed and a water analysis made of the marsh area you have in mind for conversion into a tamarack bog. You may have to get rid of, or treat by some means, the continuing influx of calcium-containing water. Most of our lakes and original bog areas in northeastern Illinois have, in the last 40 years, changed from acid bogs to calcium bogs. You might even have to divert some of the water from the surrounding watershed away from your bog. Incidentally, I am greatly interested in, and heartily in favor of your proposal for the acquisition of the Volo Bog.

Dr. Thompson: How far north does Tamarack grow?

Dr. Vestal: It grows to the arctic tree land. I believe Laketon, Indiana in Wabash County is the southerly-most point at which it has been found.

Dr. Thompson: In my opinion the tamarack bog is even more highly experimental than your prairie restoration project. I think that is a thing that should be delayed, investigated, and talked about until next year, and possibly the year after that.

There was additional discussion in which Dr. Bennett and Dr. Vestal suggested that Miss Ruth V. Schmidt of 2929 N. Prospect Avenue, Milwaukee, Wis. be contacted and invited to study our proposed bog area and advise us as to the possibility of establishing tamrack there.

CENSUSES

Mr. Mann: We have just distributed to our maintenance forces, to all CCC camps and to all WPA forces, quantities of forms upon which may be reported wild life noted in the preserves. We have requested all men to observe certain species of birds, animals or reptiles, to note the location, date, time and circumstances on this report, and forward to Lynn Hutchens. By this means we should eventually obtain a pretty good cross-section of the wild life in our preserves.

SANITATION

Dr. Thompson: Do I understand that you are having the water of the wells in your picnic areas analyzed and likewise the water at your pools and your bathing beaches?

Mr. Mann: We test our swimming pools at several points in each pool daily; however there is so much ammonia and chlorine in that water that the test is almost certain to show satisfactory. We take no samples at our bathing beaches. We know they are lousy.

We now have 300 drilled wells. We have only 10 or 12 dug wells, and they are at our tenant houses. These will be filled in as soon as we are able to drill wells to replace them. This year we reorganized our Well Department and now take samples of each well for analysis by the Chicago Water Laboratory and by the State Sanitary Water Board at Springfield. This year there was a Cook County public health officer appointed with four assistants. They will inspect and sample each well in the preserves before the opening of the picnic season each year and at least two times following that. We have a card index system which gives all the pertinent data on each well, to which we attach a colored tab, showing when it is sampled and the result of the anaylsis. If the result is good, the tab is green. If the result is bad the tab is red and the red tab stays on until we get two good subsequent analyses.

In most of our picnic areas we are not so situated that we can hook onto village water supply or sewage system. Therefore we are compelled to rely upon drilled wells and pit latrines. Where we can/we hook onto city or village sewage systems, and install flush toilets. Where there are no sewer systems and we have large concentrations of people, we have been constructing latrines built over an Imhoff tank, where the feces go directly into the Imhoff tank so arranged with baffle plates that the odor does not come back up into the portion where the seats are.

GENERAL DISCUSSION

Dr. Bennett: What is the future program of the Forest Preserve District after you have acquired all your land?

Mr. Mann: To develop and maintain small intensive use areas at strategic locations in such numbers as are required by the increase in recreational demands of the public. By this means we hope to preserve and maintain the remainder and the bulk of our holdings in their wild native state.

Dr. Bennett: Is there any idea of increasing your wild life population, or of increasing your wild life staff?

Mr. Mann: Yes. After we have taken care of our fundamental problem, namely the preparation of intensive use areas for picnicking, etc., and the protection of our interiors against automobiles and fire, then we will be free to devote our time to what we call the refinements, which would include the increase of our wild life population by unobtrusive and suble methods of management. When we are able to obtain an increase in our tax levee, we will be able to increase our staff devoted to wild life management and more particularly to the education of the public in the appreciation of wild life, wild flowers, trees, and other forms of wise use of our preserves. We estimate that we will have to

get legislation permitting an increase in our tax levee to 3½ or possibly 4 cents on every $100.00 of assessed evaluation. In Cook County, at the present time we get 2¼ cents. We hope eventually to be able to build at least 5 more trailside museums, scattered around the county where they are needed most.

Dr. Mohr: What percentage of your public use is concentrated in horseback riding, hiking and bicycling?

Mr. Mann: I can only give a wild guess, which would be 10% of our estimated 15 million visitor days per year. We do know that we have 93 stables tributary to our trails, using 2719 horses. On Sundays these horses get ridden as many as 10 times each. There are a number of hiking clubs in the Chicago area and more are being formed, all of which use our preserves to a great extent.

Dr. Yeatter: I take it that you do not have, as yet, that map we talked about last year showing where various forms of wild life are most abundant and can best be seen.

Mr. Mann: No, not yet.

O'Malley our publicity man, Lynn Hutchens and myself go about the county talking to womens' clubs, luncheon clubs, boy scout troops, etc. Wysong has been talking to boy scout troops for almost a year, and will try to talk to every boy scout troop in the Chicago area. We have a lot of slides, and are continually making more for such lectures. We hope to develop a wild life film and I am anxious to obtain portions of the very fine film Bob Hasselschwerdt has made of prairie chicken and wood duck. We have purchased 150 feet of colored film for Lynn to use in his current trapping operation of prairie chicken in southern Illinois.

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